



Dart Aerospace Ltd.  
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Canada

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③

**D5610-1TRN**  
**Job Sheet 197720**



**Part No:** D5610-1TRN

**Job Qty:** 1 pcs

**Part Name:** EC130 Aft Crosstube Turning Detail



**Part Weight:** 0 lbs

**Status:** New

**Priority:** Medium

**Job Created:** 7/15/19

**Job Tracking No:**

**Due Date:** 7/26/19

**Created By:** Marie Lajeunesse

**Type:** SOLD

**Description:**

**Note:** D5610 REV.B IPP REV:A 18.07.04 NEW ISSUE DD VERF:JFS

**Ship Via:**

### Bill of Materials

### Job Routing

| Op No | Operation            | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |  | Lead Time | DAS Sign-off |
|-------|----------------------|-------|------------|----------|-----------|---------|-----------------------|--|-----------|--------------|
|       |                      |       |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier |  |           |              |
| 100   | Mori Seiki TL-40 - 1 | 1 pcs | 7/26/19    | 7/26/19  | 1.00      | 2.00    | Mori Seiki TL-40 - 1  |  |           | 662019-07-22 |
| 110   | QC 2                 | 1 pcs | 7/26/19    | 7/26/19  | 0.00      | 0.00    | QC 2 - 1              |  |           | 9-89         |
|       |                      |       |            |          |           |         | QC 2 - 12             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 14             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 17             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 19             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 2              |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 20             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 22             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 23             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 25             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 32             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 33             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 35             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 39             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 4              |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 40             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 44             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 45             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 48             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 49             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 50             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 51             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 52             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 57             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 62             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 63             |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 8              |  |           |              |
|       |                      |       |            |          |           |         | QC 2 - 66             |  |           | 662019-07-22 |
|       |                      |       |            |          |           |         | QC 2 - 64             |  |           | 9-89         |
|       |                      |       |            |          |           |         | QC 2 - 65             |  |           |              |

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7/15/2019

## [Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

120 Mori Seiki TL-40 - 1 - B4B

1 pcs

7/26/19

1.00 2.00

Mori Seiki TL-40 - 1 - B4B

DAS

662019-07-23

9-89

130 QC 2

1 pcs

7/26/19

0.00 0.00

QC 2 - 5

QC 2 - 71

QC 2 - 73

QC 2 - 69

QC 2 - 1

QC 2 - 12

QC 2 - 14

QC 2 - 17

QC 2 - 19

QC 2 - 2

QC 2 - 20

QC 2 - 22

QC 2 - 23

QC 2 - 25

QC 2 - 32

QC 2 - 33

QC 2 - 35

QC 2 - 39

QC 2 - 4

QC 2 - 40

QC 2 - 44

QC 2 - 45

QC 2 - 48

QC 2 - 49

QC 2 - 50

QC 2 - 51

QC 2 - 52

QC 2 - 57

QC 2 - 62

QC 2 - 63

QC 2 - 8

QC 2 - 66

QC 2 - 64

QC 2 - 65

QC 2 - 5

QC 2 - 71

QC 2 - 73

QC 2 - 69

QC 8 - 12

QC 8 - 14

QC 8 - 17

QC 8 - 20

QC 8 - 25

QC 8 - 3

QC 8 - 32

QC 8 - 33

QC 8 - 35

QC 8 - 39

QC 8 - 4

QC 8 - 44

QC 8 - 45

QC 8 - 49

QC 8 - 58

QC 8 - 8

QC 8 - 9

QC 8 - 68

QC 8 - 67

QC 8 - 1 (A)

DAS

662019-07-24

9-89

140 QC 8

1 pcs

7/26/19

0.00 0.00

7/15/2019

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

DAS  
47  
9-89

|                                 |       |         |           |                        |                |
|---------------------------------|-------|---------|-----------|------------------------|----------------|
|                                 |       |         |           | QC 8 - 47              |                |
|                                 |       |         |           | QC 8 - 40              |                |
|                                 |       |         |           | QC 8 - 52              |                |
|                                 |       |         |           | QC 8 - 23              |                |
|                                 |       |         |           | QC 8 - 57              |                |
| 145 Crosstubes - 4 - B4B        | 1 pcs | 7/26/19 | 0.00 0.67 | Crosstubes - 1 - B4B   | BB 7/30/2019   |
|                                 |       |         |           | Crosstubes - 2 - B4B   |                |
|                                 |       |         |           | Crosstubes - 3 - B4B   |                |
|                                 |       |         |           | Crosstubes - 4 - B4B   |                |
| 150 Crosstubes - 5 - B4B        | 1 pcs | 7/26/19 | 0.00 1.00 | Crosstubes - 1 - B4B   |                |
|                                 |       |         |           | Crosstubes - 2 - B4B   |                |
|                                 |       |         |           | Crosstubes - 3 - B4B   |                |
|                                 |       |         |           | Crosstubes - 4 - B4B   | ST JUL 31 2019 |
| 160 QC 7                        | 1 pcs | 7/26/19 | 0.00 0.00 | QC 7 - 10              |                |
|                                 |       |         |           | QC 7 - 13              |                |
|                                 |       |         |           | QC 7 - 14              |                |
|                                 |       |         |           | QC 7 - 15              |                |
|                                 |       |         |           | QC 7 - 17              |                |
|                                 |       |         |           | QC 7 - 18              | BE             |
|                                 |       |         |           | QC 7 - 19              |                |
|                                 |       |         |           | QC 7 - 2               |                |
|                                 |       |         |           | QC 7 - 28              |                |
|                                 |       |         |           | QC 7 - 3               |                |
|                                 |       |         |           | QC 7 - 30              |                |
|                                 |       |         |           | QC 7 - 34              |                |
|                                 |       |         |           | QC 7 - 36              |                |
|                                 |       |         |           | QC 7 - 37              |                |
|                                 |       |         |           | QC 7 - 41              |                |
|                                 |       |         |           | QC 7 - 47              |                |
|                                 |       |         |           | QC 7 - 48              |                |
|                                 |       |         |           | QC 7 - 51              |                |
|                                 |       |         |           | QC 7 - 58              |                |
|                                 |       |         |           | QC 7 - 59              |                |
|                                 |       |         |           | QC 7 - 60              |                |
|                                 |       |         |           | QC 7 - 9               |                |
|                                 |       |         |           | QC 7 - 68              |                |
|                                 |       |         |           | QC 7 - 50              |                |
|                                 |       |         |           | QC 7 - 67              |                |
|                                 |       |         |           | QC 7 - 40              |                |
|                                 |       |         |           | QC 7 - 24              |                |
|                                 |       |         |           | QC 7 - 43              |                |
|                                 |       |         |           | QC 7 - 61              |                |
|                                 |       |         |           | QC 7 - 81              |                |
| 170 Packaging 3-1 - Stock - B4B | 1 pcs | 7/26/19 | 0.00 0.00 | Packaging 3 - 1 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 2 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 3 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 4 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 5 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 6 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 7 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 8 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 9 - B4B  |                |
|                                 |       |         |           | Packaging 3 - 10 - B4B |                |
|                                 |       |         |           | Packaging 3 - 11 - B4B |                |
|                                 |       |         |           | Packaging 3 - 12 - B4B |                |
|                                 |       |         |           | Packaging 3 - 13 - B4B |                |
|                                 |       |         |           | Packaging 3 - 14 - B4B |                |
|                                 |       |         |           | Packaging 3 - 15 - B4B |                |
|                                 |       |         |           | Packaging 3 - 16 - B4B |                |

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|     |            |       |         |                        |                 |
|-----|------------|-------|---------|------------------------|-----------------|
|     |            |       |         | Packaging 3 - 17 - B4B |                 |
|     |            |       |         | Packaging 3 - 18 - B4B |                 |
|     |            |       |         | Packaging 3 - 19 - B4B |                 |
|     |            |       |         | Packaging 3 - 20 - B4B |                 |
|     |            |       |         | Packaging 3 - 21 - B4B |                 |
|     |            |       |         | Packaging 3 - 22 - B4B |                 |
|     |            |       |         | Packaging 3 - 23 - B4B |                 |
|     |            |       |         | Packaging 3 - 24 - B4B |                 |
|     |            |       |         | Packaging 3 - 25 - B4B |                 |
|     |            |       |         | Packaging 3 - 26 - B4B |                 |
|     |            |       |         | Packaging 3 - 27 - B4B |                 |
|     |            |       |         | Packaging 3 - 28 - B4B |                 |
|     |            |       |         | Packaging 3 - 29 - B4B |                 |
|     |            |       |         | Packaging 3 - 30 - B4B |                 |
|     |            |       |         | Packaging 3 - 31 - B4B |                 |
|     |            |       |         | Packaging 3 - 32 - B4B |                 |
|     |            |       |         | Packaging 3 - 33 - B4B |                 |
|     |            |       |         | Packaging 3 - 34 - B4B |                 |
|     |            |       |         | Packaging 3 - 35 - B4B |                 |
|     |            |       |         | Packaging 3 - 36 - B4B |                 |
| 180 | QC 21 - SA | 1 pcs | 7/26/19 | 0.00 0.00              | QC 21 - SA - 21 |
|     |            |       |         |                        | QC 21 - SA - 70 |
|     |            |       |         |                        | QC 21 - SA - 53 |

AUG 01 2019

Part Op 100 - 1- Fill tube with sand & install plugs 2- Face and chamfer both ends as per Folio FC197 3- Turn first taper section on

Descriptions: both side

110 - QC2- Inspect parts off machine FAI/FAIB

120 - 1- Turn second taper on both side 2- Scribe part # and batch # using vibrating stylus on INSIDE the cuff as per Dwg D5610-TRN

130 - QC2- Inspect parts off machine FAI/FAIB

140 - QC8- Inspect parts - second check

145 - GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.

150 - 1- handfinish X-TUBE INSIDE AND OUT

160 - \*\*\*IDENTIFY SERIAL/ P/N # BY USING A MARKER IN THE MIDDLE OF TUBE AT CONTAINER CREATION\*\*\*

\*\*\*INSPECT ALODINE AND MAKE SURE TUBE IS IDENTIFY WITH MARKER IN THE MIDDLE OF THE TUBE\*\*\*

170 - \*\*\*IDENTIFY SERIAL # BY USING A MARKER IN THE MIDDLE OF TUBE AT CONTAINER CREATION\*\*\*

\*\*\*INSPECT ALODINE AND MAKE SURE TUBE IS IDENTIFY WITH MARKER IN THE MIDDLE OF THE TUBE\*\*\*

180 - QC21- Final Inspection - Work Order Release

## Job BOM

| Part / Item | Component Name | Quantity     | Operation                | Container |
|-------------|----------------|--------------|--------------------------|-----------|
| D6030-140   | Tube, Seamless | 1 pcs (1 ea) | 100-Mori Seiki TL-40 - 1 | 5193460   |

## Job Allocations

| Operation                | Component Part | Required | Inventory | Allocated |
|--------------------------|----------------|----------|-----------|-----------|
| 100-Mori Seiki TL-40 - 1 | D6030-140      | 1        | 17        | 0         |

## Part Specifications

Specifications could not be found.



Container No: S199539



Part: D5610-1TRN

Job No: 197720

Serial No/Batch: S199539

Revision: B

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.  
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Email: sales@dartaero.com  
www.dartaerospace.com

Date: 07/22/19

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|                                 |        |                         |
|---------------------------------|--------|-------------------------|
| DART AEROSPACE LTD              |        | Work Order: 197720      |
| Description: Crosstube Assembly |        | Part Number: D5610-1TRN |
| Inspection Dwg: B               | Rev: B | Page 1 of 2             |

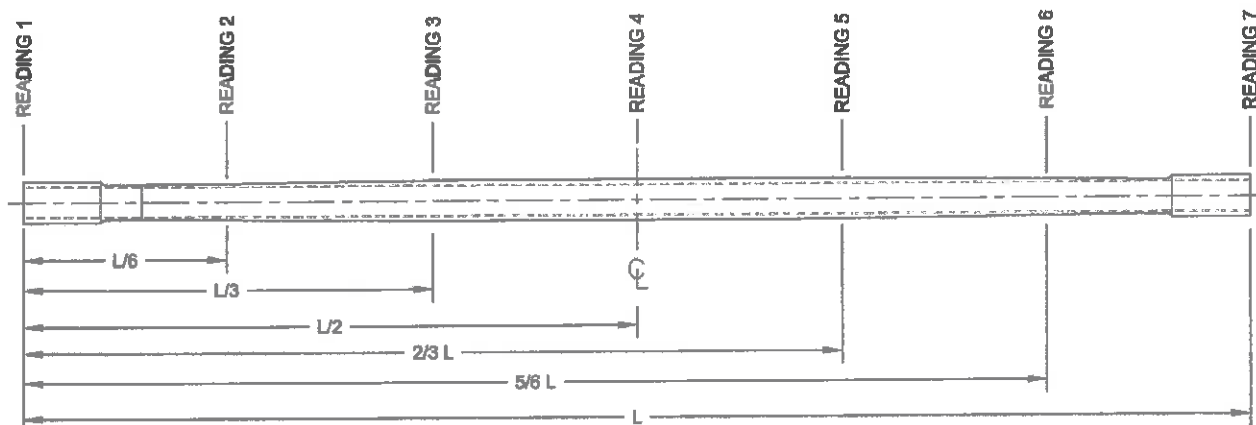
FIRST ARTICLE INSPECTION CHECKLIST

|        | Inspection Sheet<br>Drawing Dimension | Tolerance     | Actual<br>Dimension | Accept | Reject | Method of<br>Inspection | Comments |
|--------|---------------------------------------|---------------|---------------------|--------|--------|-------------------------|----------|
| SIDE A | 3.300                                 | +0.005/-0.000 | 3.304               | ✓      |        | CNC-05                  |          |
|        | 3.344                                 | +0.005/-0.000 | 3.349               | ✓      |        | "                       |          |
|        | 3.398                                 | +0.005/-0.000 | 3.403               | ✓      |        | "                       |          |
|        | 3.457                                 | +0.005/-0.000 | 3.462               | ✓      |        | "                       |          |
|        | 3.518                                 | +0.005/-0.000 | 3.523               | ✓      |        | "                       |          |
|        | 3.543                                 | +0.005/-0.000 | 3.544               | ✓      |        | "                       |          |
| SIDE B | 3.300                                 | +0.005/-0.000 | 3.305               | ✓      |        | CNC-05                  |          |
|        | 3.344                                 | +0.005/-0.000 | 3.349               | ✓      |        | "                       |          |
|        | 3.398                                 | +0.005/-0.000 | 3.403               | ✓      |        | "                       |          |
|        | 3.457                                 | +0.005/-0.000 | 3.462               | ✓      |        | "                       |          |
|        | 3.518                                 | +0.005/-0.000 | 3.523               | ✓      |        | "                       |          |
|        | 3.543                                 | +0.005/-0.000 | 3.545               | ✓      |        | "                       |          |
|        | 116.26                                | +/- 0.030     | 116.26              | ✓      |        | Tape                    |          |

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|                                 |        |                         |
|---------------------------------|--------|-------------------------|
| DART AEROSPACE LTD              |        | Work Order: 197720      |
| Description: Crosstube Assembly |        | Part Number: DS610-1TRN |
| Inspection Dwg: B               | Rev: B | Page 2 of 2             |

### WALL THICKNESS MEASUREMENT



| Location               | WALL THICKNESS MEASUREMENT (IN) |      |      |      | Deviation<br>$\Delta w$<br>(max-min) | TOLERANCE |
|------------------------|---------------------------------|------|------|------|--------------------------------------|-----------|
|                        | w1                              | w2   | w3   | w4   |                                      |           |
| READING 1<br>L= 0"     | .178                            | .185 | .189 | .181 | .011                                 | X-.030    |
| READING 2<br>L= 19.38  | .236                            | .250 | .261 | .246 | .025                                 |           |
| READING 3<br>L= 38.75  | .295                            | .308 | .314 | .305 | .019                                 |           |
| READING 4<br>L= 58.13  | .316                            | .314 | .323 | .317 | .009                                 |           |
| READING 5<br>L= 77.51  | .307                            | .305 | .300 | .311 | .011                                 |           |
| READING 6<br>L= 96.88  | .240                            | .242 | .235 | .233 | .009                                 |           |
| READING 7<br>L= 116.26 | .179                            | .181 | .182 | .181 | .003                                 |           |

#### Calibration Result

Actual Block Thickness: 100-400

Sitescan 250 Measured Thickness: 100-400

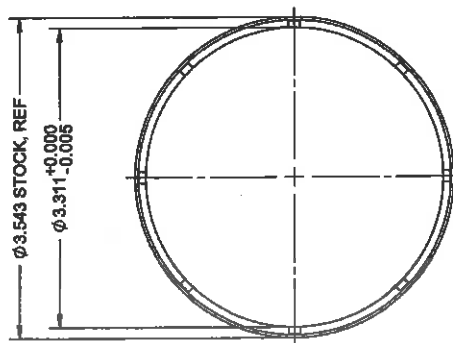
Measured by: DAS 66  
9-89  
Date: 2019-07-24

Audited by: DAS 47  
9-89  
Date: 19-07-29

Preliminary Approval:   
Date:

| Rev | Date     | Change                     | Revised by | Approved |
|-----|----------|----------------------------|------------|----------|
| B   | 10.04.14 | Added preliminary approval | KJ         |          |
| C   | 12.06.01 | Wall thickness form added  | KJ         |          |





NOTES:  
 1) MATERIAL: MAKE FROM D6030-140  
 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
 4) THICKNESS: INCHES UNLESS OTHERWISE NOTED  
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
 6) IDENTIFICATION: NONE  
 7) WEIGHT: 0.47 lbs

**DESIGNED  
FOR  
THE  
FUTURE**

2019 FEB 25 4

**APPROVED**

|            |              |                                                                                                                                                                                                                                                                                                   |              |
|------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | NO           | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                                         |              |
| DRAWN      | ZF           | HAMMERSBURY, ONTARIO, CANADA                                                                                                                                                                                                                                                                      |              |
| CHECKED    | MMV          | DRAWING NO.                                                                                                                                                                                                                                                                                       | REV. B       |
| MFG. APPR. | JFS          | D5610                                                                                                                                                                                                                                                                                             | SHEET 3 OF 3 |
| APPROVED   | NO           | TITLE                                                                                                                                                                                                                                                                                             | SCALE        |
| DE APPR.   | CP <i>ll</i> | AFT X-TUBE (EC130)                                                                                                                                                                                                                                                                                | NTS          |
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